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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,678	07/28/2004	Harold Sun	81081067	4677
46535	7590	08/05/2005	EXAMINER	
BIR LAW, PLC/FGTL 45094 MIDDLEBURY COURT CANTON, MI 48188-3215			TRIEU, THAI BA	
			ART UNIT	PAPER NUMBER

3748

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/710,678

Applicant(s)

SUN ET AL.

Examiner

Thai-Ba Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9, 12, 16, 17, 20, 22, 23 and 25 is/are rejected.
- 7) ☒ Claim(s) 4-8, 10, 11, 13-15, 18, 19, 21 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/28/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Signature

Applicant's attorney is required to submit a substitute the electronic transmittal, because the electronic signature of the attorney of the record is improper. According to the rule 37CFR 1.4(d)(2) the signature of the practitioners must be placed between forward slashes.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show **"126"** (See Paragraph [0038], line 9) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are

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not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **"140"** and **"148"** (See Figure 5). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 9, 12, 16-17, 20, 23, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ganz et al. (Patent Number DE 38 17 246 A1).

Regarding claims 1-3 and 9, Ganz discloses a method for controlling a turbocharged internal combustion engine having at least two turbochargers (6, 9), the method comprising:

- operating the turbochargers (6, 9) in a series configuration for a first operating region; and

- operating the turbochargers (6, 9) in a parallel configuration for a second operating region;

- wherein the first and second operating regions correspond to demanded airflow (via 19);

- wherein the at least two turbochargers include first and second turbochargers (6, 9) having corresponding first and second compressors (15, 16), respectively, wherein the step of operating the turbochargers in a series configuration comprises selectively connecting an outlet of the second compressor (from 16 via 29, and then to 15) to an inlet of the first compressor (15);

- wherein the at least two turbochargers (6, 9) include first and second turbochargers having corresponding first and second compressors (15, 16), respectively, and wherein the step of operating the turbochargers in a parallel configuration comprises:

decoupling the outlet of the second compressor from an inlet of the first compressor (via valve 29); and

coupling the outlet of the second compressor (via 26, 27, 21 24, and then 25) to an intake manifold of the internal combustion engine (See Figure, Abstract, Columns 13, lines 1-68, and Column 4, lines 1-42).

Regarding claims 12, 16-17, 23, and 25 Ganz system for turbocharging an internal combustion engine, the system and a computer readable storage medium comprising:

first and second turbochargers (6, 9) each having an associated compressor (15, 16) and turbine (5, 8);

a plurality of flow control devices (12, 14, 27, 29) for selectively routing intake and exhaust flow to and from the first and second turbochargers (6,9) ;
and

a controller (31) in communication with the plurality of flow control devices (12, 14, 27, 29), the controller (31) selectively actuating the plurality of flow control devices to operate the first and second turbochargers in one of a series configuration and a parallel configuration based on current operating conditions (See Figure , Abstract, Columns 13, lines 1-68, and Column 4, lines 1-42);

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wherein the controller (31) operates the turbochargers based on the current operating conditions including at least demanded airflow (via 19) (See Figure, Abstract, Columns 13, lines 1-68, and Column 4, lines 1-42);

wherein the controller actuates the plurality control devices to couple an outlet of the second compressor (16) to an inlet of the first compressor (15) when operating the turbochargers in the series configuration (See Figure, Abstract, Columns 13, lines 1-68, and Column 4, lines 1-42).

Regarding claim 20, Ganz further discloses the plurality of flow control devices (12, 14, 27, 29) comprising:

a first intake valve for selectively coupling an inlet of the first compressor to ambient or an outlet of the second compressor (via 29); and

a second intake valve for selectively coupling an outlet of the second compressor to an intake manifold (via 27, 21 24, then to 25) or the inlet of the first compressor (See Figure).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ganz et al. (Patent Number DE 38 17 246 A1), in view of Schray et al. (Patent Number 5,845,495).

Ganz discloses the invention as recited above; and further disclose a catalyst and muffler (See Column 2, lines 55-58) wherein the plurality flow control devices (12, 14, 27, 29) comprising an exhaust valve for selectively coupling outlet of the second turbine (via 12) to the after-treatment device; however, Ganz does not disclose first and second after-treatment devices and their location.

Schray teaches that it is conventional in the exhaust gas turbocharged internal combustion engine art, to utilize first and second after-treatment devices (27, 28) disposed down-stream of the first and second turbines (6, 7) (See Figures 1-2).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized first and second after-treatment devices and their location, as taught by Schray, to reduce exhaust emissions of the Ganz system.

Allowable Subject Matter

Claims 4-8, 10-11, 13-15, 18, 19, 21, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The IDS (PTO-1449) filed on July 28, 2005 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Sumser et al. (Patent Number DE 196 03 591 C1) disclose an exhaust feedback system for turbocharged internal combustion engines.

- De Jong (Patent Number EP 0 740 065 A1) discloses a system for recirculating exhaust gases in internal combustion engines.

- Inaba (Patent Number JP 08028287 A) discloses a two stage supercharged engine.

- Ishihara (Patent Number JP 07293262 A) discloses a sequential supercharger for diesel engines.

- Sumser et al. (Pub. Number DE 43 10 148 A1) discloses supercharged internal combustion engines.

- Schmidt et al. (Pub. Number DE 42 42 494 C) disclose turbocharged internal combustion engines.

- Ammann et al. (Pub. Number EP 306829 A1) disclose supercharged internal combustion engines.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Additionally, the new Central FAX Number **(571) 273-8300** is effective on **July 15, 2005**. The old number (703-872-9306) will be routed to the new number until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
August 02, 2005


Thai-Ba Trieu
Primary Examiner
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